Name:

## p1105: Factoring when $a = 1$ (v9)

**Example: Factor $x^2 + 5x - 24$**

Find two numbers whose product is $-24$ and whose sum is 5. Focus on finding factor pairs of $-24$. Eventually you consider 8 and $-3$ because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 + 3x - 18$

   $(x + 6)(x - 3)$

2. Factor $x^2 + 5x + 6$

   $(x + 2)(x + 3)$

3. Factor $x^2 + 5x - 6$

   $(x - 1)(x + 6)$

4. Factor $x^2 - 8x + 15$

   $(x - 3)(x - 5)$

5. Factor $x^2 - 2x - 3$

   $(x + 1)(x - 3)$

6. Factor $x^2 - 15x + 56$

   $(x - 8)(x - 7)$

7. Factor $x^2 - 16x + 63$

   $(x - 7)(x - 9)$

8. Factor $x^2 - x - 12$

$(x-4)(x+3)$

9. Factor $x^2 - 5x - 14$

$(x+2)(x-7)$

10. Factor $x^2 + 16x + 63$

$(x+7)(x+9)$

11. Factor $x^2 + 4x - 21$

$(x-3)(x+7)$

12. Factor $x^2 - 6x - 27$

$(x-9)(x+3)$

13. Factor $x^2 + 3x - 4$

$(x-1)(x+4)$

14. Factor $x^2 - 3x + 2$

$(x-1)(x-2)$

15. Factor $x^2 - x - 42$

$(x+6)(x-7)$